Puget Sound Refinery

Near Miss Form

☑ Safety ☐ Enviromental ☐ Other

Name: Brian Ricks (Optional,) **Date:** 3/2/2011

Near Miss Number: 2011-13 **Time:**

Description of Near Miss:

11PK101 shutdown due to problems with the throttle valve. Compressor was shutdown, blocked in and locked out for maintenance work. When I went out into compressor house I found a strong odor of H2S in the compressor house. I got a gas tester and found too high concentration to continue into compressor house. It was determined the leak was from the compressor case after the seal oil pump was shutdown.

Actions Taken To Mitigate: (i.e. barricade tape installed, etc)

SCBA was secured and the seal pots were isolated and compressor was depressurized to flare. The H2S leak was stopped after this work completed.

Systems of Safety Affected:

Major Safety Systems	Design & Engineering	Maintenance & Inspection	Mitigation Devices	Warning Devices	Training & Procedures	Personal Protective Factors
	☐	☒	☐	☐	☐	☐
Level of Prevention	**Highest--the first line of defense**	**Middle--the second line of defense**				**Lowest--the last line of defense**
Effectiveness	**Most Effective**	←			→	**Least Effective**
Goal	*To eliminate hazards*	*To further minimize and control hazards.*				*To protect when higher level systems fail*

Behaviors	% of Cause	Conditions	% of Cause
* Rushing		* Weather	
* Preoccupied		* Tools	
* PPE not used		* Time of Day	
* Needed help with task		* Housekeeping	
* Other		* PPE not effective	
Total Behavior	%	Total Condition	%

* These are examples, not all inclusive

Employee Recommendations:

Develop written training documentation and procedures on the seal and lube oil systems for 11PK101 and 10PK101. Then train all the operators on these systems (This recommendation will be worked as a separate issue)

Puget Sound Refinery

Near Miss Form

Lessons Learned:

Not having proper procedures and training on equipment can lead to unwanted events.

Action Taken: (If Any)
(To be filled in by TOP/BEST Coordinator)

- Considering installing dry seals for this system. Taking proposal to screening committee in may 2011.
- Notification to employees for learning and awareness.

Puget Sound Refinery

Near Miss Form

☑ Safety ☐ Enviromental ☐ Other

Name: James Caddell (Optional,) **Date:** 10/10/2011

Near Miss Number: 2011-34 **Time:**

Description of Near Miss: Operating Orders dated 10/7/2011 – 10/09/2011 instructed Ops to ready PRV4500 for maintenance. Descriptor stated line was out of service so no MOC required. This line appears to be in service (this PRV protects the rich amine line, not 5JV33 filter that IS out of service). Ops figured it out and implemented the mitigation plan BEFORE isolating the PRV. In the end, maintenance didn't bother to work the PRV anyway.

Actions Taken To Mitigate: (i.e. barricade tape installed, etc)

Mitigation plan put in place by Ops to assure PRV outage would not negatively impact safety

Systems of Safety Affected:

Major Safety Systems	Design & Engineering	Maintenance & Inspection	Mitigation Devices	Warning Devices	Training & Procedures	Personal Protective Factors
	☐	☒	☐	☐	☒	☐
Level of Prevention	**Highest–the first line of defense**	**Middle--the second line of defense**				**Lowest--the last line of defense**
Effectiveness	**Most Effective**	←			→	**Least Effective**
Goal	*To eliminate hazards*	*To further minimize and control hazards.*				*To protect when higher level systems fail*

Behaviors	% of Cause	Conditions	% of Cause
* Rushing		* Weather	
* Preoccupied		* Tools	
* PPE not used		* Time of Day	
* Needed help with task		* Housekeeping	
* Other		* PPE not effective	
Total Behavior	%	Total Condition	%

* These are examples, not all inclusive

Employee Recommendations:

Update PRV database to assure that the PRV in question has the right service description. REQUIRE FIELD VERIFICATION if any PRV other than CLASS 4/4A is being taken out of service AND the equipment is considered out of service.

Lessons Learned:

Don't trust planners

Puget Sound Refinery

Near Miss Form

Action Taken: (If Any)
(To be filled in by TOP/BEST Coordinator)

- Rich Clasen determined that the PRV is there to protect the filter (MAWP of 150psi) and it appears that its not required for the piping (MAWP of 278 psi).
- Better communication in the future
- Notification to employees for learning and awareness

Puget Sound Refinery

Near Miss Form

☑ Enviromental ☐ Other

Name: Dan Peck (Optional,) **Date:** 12-6-2011

Near Miss Number: 2011-42 **Time:** 1100

Description of Near Miss: Found seal flush tubing compression fitting iced up on suction line of 10P209 Propane pump. Looked closer and the compression nut was not threaded on, maybe just started on cross threaded. Pump was running.

Actions Taken To Mitigate: (i.e. barricade tape installed, etc)

Shut pump down, blocked in and depressured to flare. Put fitting together properly.

Systems of Safety Affected:

Major Safety Systems	Design & Engineering	Maintenance & Inspection	Mitigation Devices	Warning Devices	Training & Procedures	Personal Protective Factors
	☐	☒	☐	☐	☒	☐
Level of Prevention	**Highest–the first line of defense**	**Middle--the second line of defense**				**Lowest--the last line of defense**
Effectiveness	**Most Effective**	←			→	**Least Effective**
Goal	*To eliminate hazards*	*To further minimize and control hazards.*				*To protect when higher level systems fail*

Behaviors	% of Cause	Conditions	% of Cause
* Rushing	100	* Weather	
* Preoccupied		* Tools	
* PPE not used		* Time of Day	
* Needed help with task		* Housekeeping	
* Other		* PPE not effective	
Total Behavior	100%	Total Condition	%

* These are examples, not all inclusive

Employee Recommendations:

Look jobs over carefully when done. Look machinery and systems over carefully before starting.

Lessons Learned:

Rounds pay off.

Action Taken: (If Any)
(To be filled in by TOP/BEST Coordinator)

- Pump shut down and tubing repaired.
- Notification to employees for learning and awareness.

Puget Sound Refinery

Near Miss Form

☑ Safety ☑ Enviromental ☐ Other

Name: Jim Caddell (Optional,) **Date:** 6/12/12

Near Miss Number: 2012-12 **Time:**

Description of Near Miss: On May 22, 2012, the FCCu was inadvertently tripped out. On restart, hydrocarbon flow routed to the Poly unit well exceeded the Hazop limit, resulting in both PRVs on 5JC102 relieving to the flare and the Poly flare meter exceeding upper range limit (200 MSCF-HR)

Actions Taken To Mitigate: (i.e. barricade tape installed, etc)

????

Systems of Safety Affected:

Major Safety Systems	Design & Engineering	Maintenance & Inspection	Mitigation Devices	Warning Devices	Training & Procedures	Personal Protective Factors
	☒	☐	☐	☐	☒	☐
Level of Prevention	**Highest–the first line of defense**	**Middle--the second line of defense**				**Lowest--the last line of defense**
Effectiveness	**Most Effective**	←			→	**Least Effective**
Goal	*To eliminate hazards*	*To further minimize and control hazards.*				*To protect when higher level systems fail*

Behaviors	% of Cause	Conditions	% of Cause
* Rushing		* Weather	
* Preoccupied		* Tools	
* PPE not used		* Time of Day	
* Needed help with task		* Housekeeping	
* Other		* PPE not effective	
Total Behavior	%	Total Condition	%

* These are examples, not all inclusive

Employee Recommendations:
Don't know.

Lessons Learned:
Our PRVs work.

Action Taken: (If Any)
(To be filled in by TOP/BEST Coordinator)

- James Steller is researching
- Notification to employees for learning and awareness

Puget Sound Refinery

Near Miss Form

☑ Safety ☐ Enviromental ☐ Other

Name: (Optional,) **Date:** 07/08/2012

Near Miss Number: 2012-17 **Time:** 0700

Description of Near Miss: Arrived at work in the morning, during the ESP shift turnover and beginning of shift log/order review it was noticed the HTU2 was running over the HAZOP max charge rate of 2000 bph. Calculated max charge 11RXCHG was trended and found to be over 2000 bph starting about 11:30pm on 7/7/12.

Actions Taken To Mitigate: (i.e. barricade tape installed, etc)

Console operator cut charge to bring unit back in compliance with the HAZOP limit.

Systems of Safety Affected:

Major Safety Systems	Design & Engineering	Maintenance & Inspection	Mitigation Devices	Warning Devices	Training & Procedures	Personal Protective Factors
	☒	☐	☐	☐	☒	☐

Level of Prevention	Highest–the first line of defense	Middle--the second line of defense	Lowest--the last line of defense
Effectiveness	Most Effective	← →	Least Effective
Goal	*To eliminate hazards*	*To further minimize and control hazards.*	*To protect when higher level systems fail*

Behaviors	% of Cause	Conditions	% of Cause
* Rushing		* Weather	
* Preoccupied		* Tools	
* PPE not used		* Time of Day	
* Needed help with task		* Housekeeping	
* Other		* PPE not effective	
Total Behavior	%	Total Condition	%

* These are examples, not all inclusive

Employee Recommendations:

Encourage operators to not violate the HAZOP limits.

Encourage management personnel to instruct operators to cut charge when they see the HAZOP limits exceeded, and not to encourage operators to ignore the limits.

Lessons Learned:

There appears to be a lack of concern over violating the HAZOP limits

Puget Sound Refinery

Near Miss Form

Action Taken: (If Any)
(To be filled in by TOP/BEST Coordinator)

- Feed tag calculations were corrected and was communicated
- Notification to employees for learning and awareness.

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Near Miss Form

☑ Safety ☑ Enviromental ☐ Other

Name: (Optional,)

Date: 08/11/2012

Near Miss Number: 1

Time: 6:30PM

Description of Near Miss: Spent Caustic was to be batched out of 11F126 but the level indicator was not reading accurately (and located at the top of the vessel) resulting in sending LPG to the Alky2 degassing drum after all spent caustic was shipped out of the vessel. Thermal expansion in the piping packed with propane (line usually packed with caustic) resulted in propane released to atmosphere from a PRV installed on the piping to protect it from overpressure. Also LPG was sent to the flare from the Alky2 degassing drum.

Actions Taken To Mitigate: (i.e. barricade tape installed, etc)
Re-filled 11F126 with caustic (as it should be) and opened spent caustic line to alky 2 to depressure the piping by floating it on the flare. Then packed the piping to Alky2 with spent caustic.

Systems of Safety Affected:

Major Safety Systems	Design & Engineering	Maintenance & Inspection	Mitigation Devices	Warning Devices	Training & Procedures	Personal Protective Factors
	☒	☐	☐	☒	☒	☐

Level of Prevention	Highest–the first line of defense	Middle--the second line of defense	Lowest--the last line of defense
Effectiveness	Most Effective	← →	Least Effective
Goal	*To eliminate hazards*	*To further minimize and control hazards.*	*To protect when higher level systems fail*

Behaviors	% of Cause	Conditions	% of Cause
* Rushing		* Weather	
* Preoccupied		* Tools	
* PPE not used		* Time of Day	
* Needed help with task		* Housekeeping	
* Other		* PPE not effective	
Performed task without a valid procedure	100 %	Unreliable LT	75 %
		No warning device to indicate LPG break thru	25 %
Total Behavior	%	Total Condition	%

* These are examples, not all inclusive

Emplovee Recommendations:
PRV did its' job but it should be piped into the flare or amine knockout pots to prevent LOPC.
Install more reliable level instrumentation on 11F126.
Install some type of "warming" indicator or device to prevent LPG from entering piping to Alky2.
Create a proper operating procedure (we think there used to be one but none could be found now in EDOC's).

Lessons Learned:

Puget Sound Refinery

Near Miss Form

Action Taken: (If Any)
(To be filled in by TOP/BEST Coordinator)

- Level indicator was repaired
- Researching for expired procedure to possibly put back in place
- Notification to employees for learning and awareness